

Original communication

Scars of torture: A Sri Lankan study

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Abstract

Interpretation of scars of torture is not an easy task as our understanding of evolution of scars of different methods of torture is still in its infancy. The objectives of this study were to produce the features of a typical scar of a few selected methods of torture and determine their characteristic distribution. To achieve this, 100 medico-legal records of victims of torture examined at the Judicial Medical Officer's Office, Colombo between 1998 and 2001 were perused. Scars caused by seven selected methods of torture were taken into consideration. They were, assault with both non-pliable and pliable blunt objects, cigarette burns, burns with heated solid objects and molten plastic, ligature application with different forms of suspension and cuts with sharp objects. Total number of scars analyzed in this study was 1846, which included 740 scars of non-pliable blunt weapons, 182 of pliable blunt weapons, 102 of ligature, 59 of molten polythene, 55 of heated objects and 82 of razor blades and knives. Typical scars of each method of torture and their characteristic distribution were determined.

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1. Introduction

During late nineties, the forensic medical doctors working in Colombo were regularly requested by the courts to examine an increasing number of torture victims. Almost all of them were arrested by the police and security forces under the Prevention of Terrorism Act (PTA).¹ One of the many controversial provisions of PTA was the ability to detain a suspect for 18 months before producing in a court, which was different from the normal law of the land.² As a result of this, a tortured suspect had to wait for months if not for years, before getting a chance to complain to any responsible authority. This had a tremendous effect on doctors, who had hitherto used to examine fresh injuries. They had to adopt themselves to examine scars and other chronic sequelae of torture to express opinions as to whether a patient had been tortured or not. This situation demanded a completely new approach not only to the techniques of examination and interpretation of physi-

cal evidence but also to writing conclusions at the end of the examination. Doctors from other countries, especially of refuge, had also to face similar situations, where refugees claimed that they were tortured months or years before.³

Interpretation of scars and other chronic after effects of torture had to be improved to suite the five-tier approach (which is given below) adopted in writing conclusions:

1. 'No physical evidence of torture'. However, doctor should mention in the report that torture can be possible without injuries being inflicted.
2. 'Physical evidence present is not compatible with the allegation of torture'. Age or the appearance of scars is not compatible with the history and/or the instruments alleged to have been used. Sometimes scars shown by the patient is not due to torture but due to tribal ritual, traditional remedies, stretch marks or disease, etc.⁴
3. 'Physical evidence present is possibly caused by torture'. (Chance is less than 50%.) The patient says that the scars have been caused by torture but the doctor feels that there can be many other explanations other than torture. He is unable to deny the patients claim, though.

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4. 'Physical evidence present is probably caused by torture'. (Chance is more than 50%.) There is a very high chance of the scars being caused by torture.
5. 'Physical evidence present is definitely caused by torture'. (Chance is close to 100%.) The doctor does not have a doubt as to the origin of the scars. However, there can only be very few instances where the scars are unequivocal to that extent.⁴

These five stages are somewhat similar to the four degrees of consistency with the history of torture suggested by Rasmussen et al.⁵ According to Edston, opinion is given on the probability that torture has occurred on a scale of zero to three, where the three is regarded as next to conclusive.⁶

The Istanbul Protocol has also given some guidelines to the doctors on interpretation of physical findings. They are instructed to correlate the degree of consistency between physical examination findings and allegation of abuse without elaborating on how to do it. The Protocol has given the doctors from various part of the world the discretion to use their innovativeness in preparing reports as it says that these guidelines are not fixed prescriptions but should be applied taking into account the purpose of the evaluation and assessment of the available resources.⁷ This is exactly what we have done by adopting the 5-tier approach in writing conclusions.

Before torture became a criminal offence in 1994⁸ cases were filed in the Supreme Court for violation of fundamental rights guaranteed by the article 11 of the constitution.⁹ The standard of proof in these cases was mere 'balance of probability'. Hence, writing conclusions in the report was not taken very seriously by the doctors. However, situation changed since that time as the government has started to file cases under the 1994 law. The implications of this change significantly affected report writing as the standard of proof in criminal cases is 'beyond reasonable doubt'. The doctors will have to defend their conclusions in the courts, which will be subjected to merciless cross examination by the defense lawyers. Therefore, the need of the day is to embark upon more and more scientific research into this important aspect of torture to arm the doctors with better tools in identifying and interpreting scars. This study is an attempt towards that direction.

2. Methodology

This is a retrospective study done on the case records of 100 torture victims who were examined in the Office of the Judicial Medical Officer in Colombo during the period between 1998 and 2001. The definition of torture adopted by United Nations Convention against Torture was used in this study. All the victims had been arrested mainly from the northern and eastern provinces of the country on charges of terrorism under the PTA and kept in army camps and police stations for extended periods of time ranging from months to years.

Specific objectives of this study were to describe the physical features and determine the distribution of the scars of injuries caused by selected methods of torture.

3. Results

3.1. Sex and age distribution (Fig. 1)

89% were male and 11% were female. 40% of the victims were between 21 and 25 years. 84% were between 16 and 35 years of age. The youngest person in this group was just 16 years of age whereas the oldest person was 61 years. Only 9% were above 40 years.

3.2. Interval between the torture and the examination (Fig. 2)

Since no victim could remember the exact date or dates of torture, interval between the torture and examination could not be calculated accurately. However, all the victims claimed that they were tortured within the first few days of detention. Therefore, it was assumed that the interval between date of arrest and examination was more or less equal to the interval between the torture and examination.

3.3. Total number of scars and number of scars per person (Fig. 3)

In this series all the victims had scars at least from one of the methods of torture, to which they had been subjected. All the scars, the victims had shown as caused by torture were taken for the study. Altogether there were 1846 scars. On average there were 18.46 scars per person. There was a female who had 57 scars. There were six victims who had between 41 and 50 scars. 30% had 16–25 scars and another 42% had 6–15 scars.

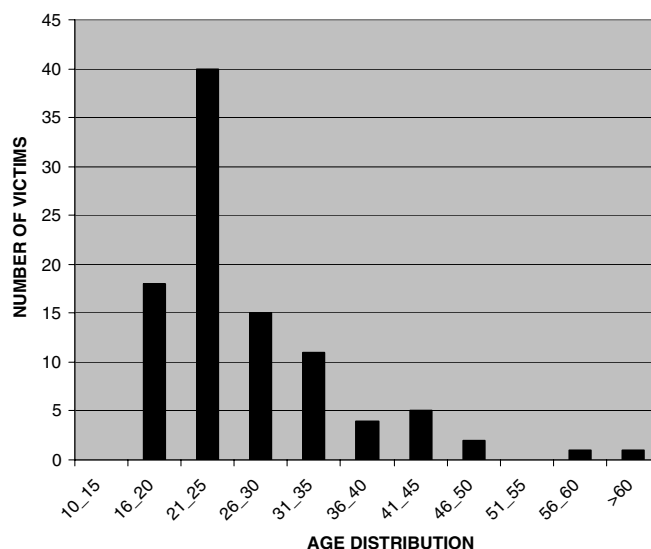


Fig. 1. Distribution of the age of the victims.

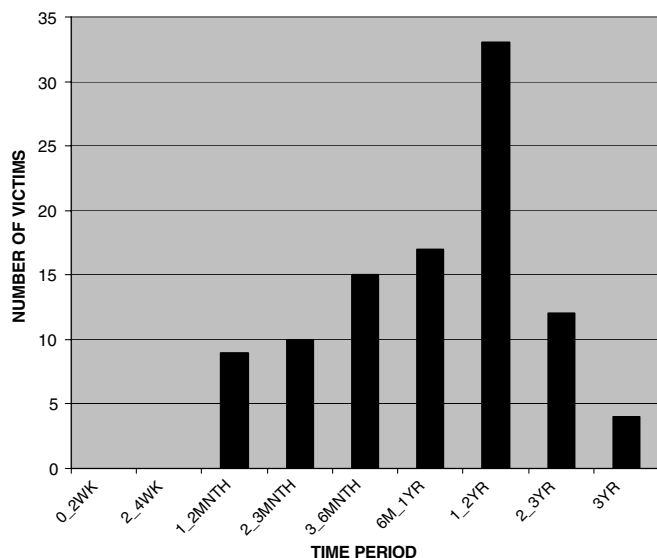


Fig. 2. Interval between the torture and the examination.

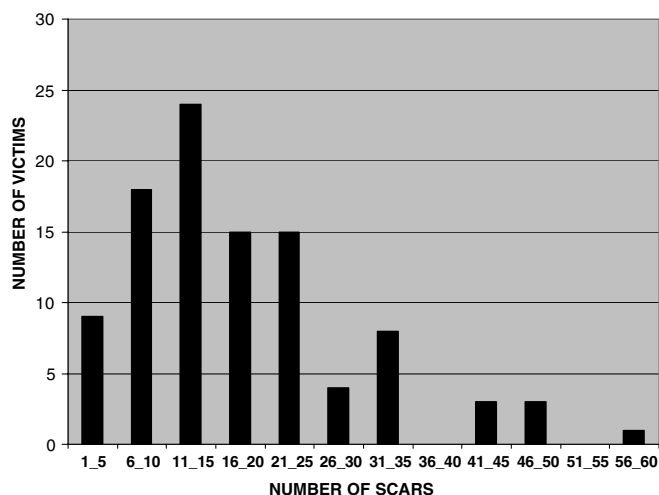


Fig. 3. Distribution of number of scars.

However, it should be remembered that number of scars is not an indication of the severity of torture because it is a known fact that many of the well-known forms of torture leave no scars or at most only a few scars.

3.4. Description of scars

Scars were described according to a format, which included the usual points like site, size, shape, etc. In addition, following features were also included in the descriptions viz. depth, pigmentation, growth, surface peculiarities, and skin margins. In some records, one or more of these points were not mentioned causing a gap in the percentage of some analyses.

3.5. Cigarette burns

57% of victims were burned with lighted cigarettes and all of them had scars. Total number of scars of cigarette

burns was 368, which was 20% of the total. Average number of scars per victim was 6.45 scars.

97% of scars were described as being oval or round in shape. The rest was irregular.

95% scars were between 3 mm and 15 mm in size.

62% of scars were deep and 30% were superficial.

38% of scars were pigmented, 28% scars were depigmented and 30% scars showed both depigmented and pigmented areas.

75% of scars were dull and 25% were shiny.

4% of scars had pigmented margins whereas 91% had normal margins.

13% of scars were hypertrophied whereas 87% of scars were not hypertrophied.

26% were puckered.

3.5.1. The distribution (Fig. 4)

Cigarette burns were mainly seen on the front of the trunk (14%), anterior thigh (13%), front of the forearms (10%), back of the forearms (10%) and front of the lower leg (9%).

3.6. Scars caused by non-pliable blunt weapons (NPBW)

95% of the victims claimed that they were tortured with NPBW but only 87% had scars. NPBW included rifle butts, batons, wooden sticks, wicket stumps, cement or sand filled PVC pipes, chair and table legs, etc.

Total number of scars of NPBW was 740, which was 40% of the total. On average there were eight scars per victim.

Shapes of scars caused by NPBW are:

1. elongated (the length is longer than the width),
2. linear (elongated scars with 1–2 mm of width),

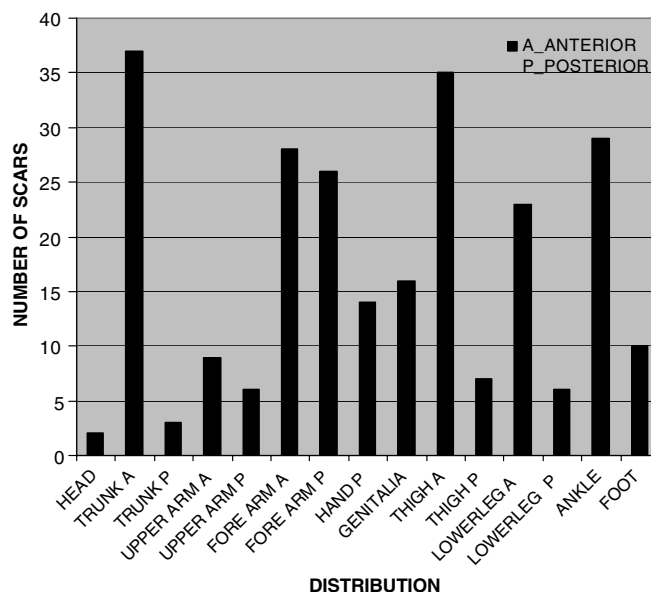


Fig. 4. Distribution of scars of injuries due to cigarette burns.

3. tram line (two parallel elongated or linear scars separated by normal skin) and
4. others (Round, Oval, Irregular and Spindle).

48% were elongated, 18% were linear and 1% was ‘tram line’ scars.

Elongated scar was the typical scar of NPBW. Hence it was analyzed further.

86% were superficial and 10% were deep.

50% were pigmented, 26% were de-pigmented with pigmented areas and 24% were de-pigmented.

93% were dull and 7% were shiny.

In 78% scars the length varied from 30 mm to 119 mm. In 77% scars the width varied from 5 mm to 15 mm.

3.6.1. Distribution (Fig. 5)

65% of the elongated scars were seen on the back of the trunk alone. 83% were seen on the back of the trunk, back of the upper arms and back of the thighs.

3.7. Scars caused by pliable blunt weapons (PBW)

PBW included wires, canes, belts, straps, ‘dried bull’s penis’, hose pipes, etc. 42% of victims claimed that they had been tortured with PBW but only 29% had scars. Total number of scars of PBW was 182, which was 9.5% of the total. On average there were 6.27 scars per victim.

68% were elongated, 14% were linear, 5% were ‘tram line’ scars and 13% were either round, oval, irregular or oval.

The typical scar of pliable blunt weapons is elongated. Hence it was analyzed further.

2% scars were deep whereas 98% scars were superficial.

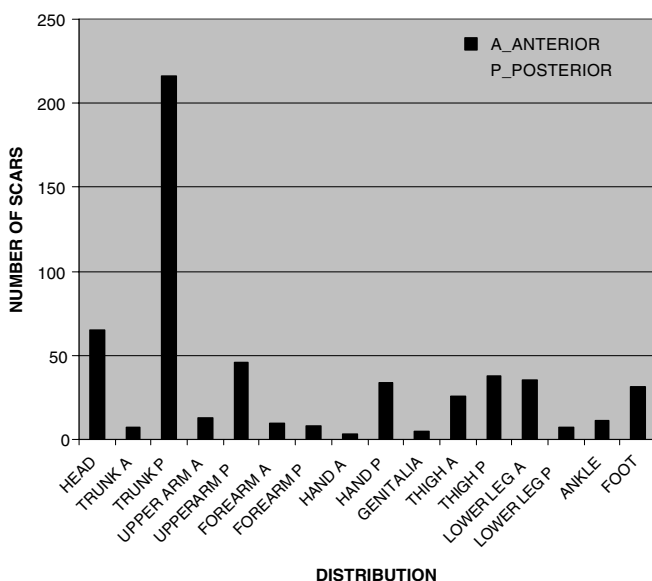


Fig. 5. Distribution of scars of injuries due to non-pliable weapons.

68% were pigmented and 14% were de-pigmented. 12% had both pigmented and de-pigmented areas. 99% was Dull whereas only 1% was shiny.

The length of 61% scars was between 30 mm and 69 mm. The longest was between 140 mm and 149 mm. The width of 93% scars was between 5 mm and 15 mm.

3.7.1. Distribution (Fig. 6)

Forty-four was seen on the back of the trunk alone. 72% were seen on the back of the trunk, back of the upper arms and back of thighs. 13% were seen on the front of the thighs.

3.8. Scars of ligatures

Although 76% of victims claimed that they were subjected to ligature application only 44% had scars. The variety of ligatures included hand cuffs, coir ropes, cloth straps, wires, etc. Total number of scars of ligature was 102, which was 5.58% of the total. On average there were 2.31 scars per person.

66% scars were either elongated or linear (43% of scars were elongated, 23% were linear) and 34% were either oval, round or irregular.

23% of scars were deep. 57% were superficial scars.

51% of scars were pigmented, 30% of scars were de-pigmented and 7% of scars were pigmented with de-pigmented areas.

98% were dull whereas 2% were shiny. All had normal skin margins.

3.8.1. Distribution (Fig. 7)

76% of the scars were found on the wrists and ankles. Others were on the forearms and lower legs.

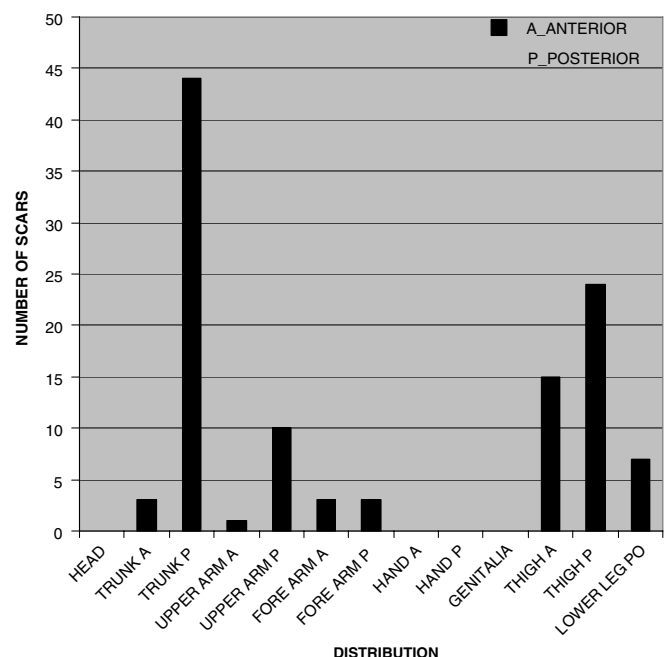


Fig. 6. Distribution of scars of injuries due to pliable weapons.

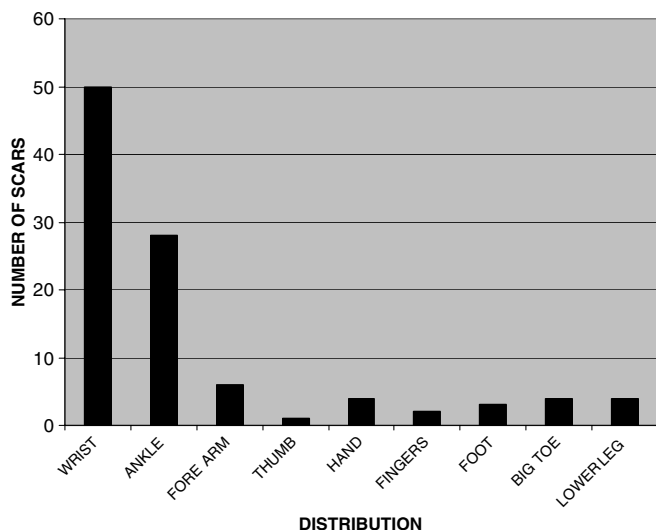


Fig. 7. Distribution of scars of injuries due to hand cuff/ligature injuries.

3.9. Scars from hot objects

3.9.1. Scars from molten plastic

All 11% of victims who claimed to have been tortured with molten plastic had scars. Total number of scars of molten plastic was 59, which was 3.19% of the total. On average there were 5.36 scars per person.

64% was oval, 31% was round, 2% was elongated and 3% were irregular and others.

The diameter of the round and the longest diameter of the oval and the irregular scars were between 6 mm and 30 mm in 76% of scars.

95% of the scars were deep. Only 5% were superficial.

57% of the scars were pigmented, 38% were de-pigmented and 5% was de-pigmented with pigmented areas. 95% were dull, 5% were shiny. All had normal skin margin.

27% of scars were hypertrophied and 24% were puckered.

Although one expects to see flow pattern in burns with molten plastic as it is in liquid form it was not seen in our series. The plastic used here was ordinary 'shopping bags'. When burned they produce burning clumps of molten polythene, which just stick to the skin without flowing down.

3.9.1.1. Distribution (Fig. 8). 22% were seen on the dorsum of the feet. Front of the lower leg and thigh each had 12% of scars and 14% was on the wrists.

3.9.2. Scars from heated solid objects

Although 11% of victims claimed that they were tortured with heated solid objects only 9% had scars. Most could not identify the objects as they were blind folded. Total number of scars was 55, which was 2.98% of the total. On average there were 6.11 scars per person.

Shape showed a definite pattern all the time.

37% was elongated, 31% was rectangular, 13% was oval, 11% was round and 8% was other shapes.

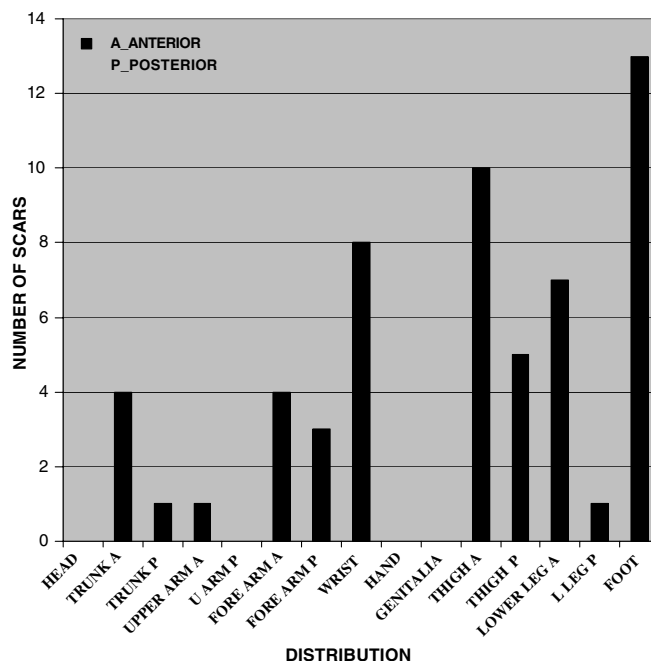


Fig. 8. Distribution of scars of injuries due to molten plastic.

73% were deep and 11% were superficial.

44% were pigmented and 24% were de-pigmented. Pigmented scars with de-pigmented areas were 324%.

90% was dull and 10% was shiny.

82% was hypertrophied.

24% was puckered.

All had normal skin margins.

3.9.2.1. Distribution (Fig. 9). Contrary to my expectations the distribution of scars of heated solid objects does not take any particular pattern.

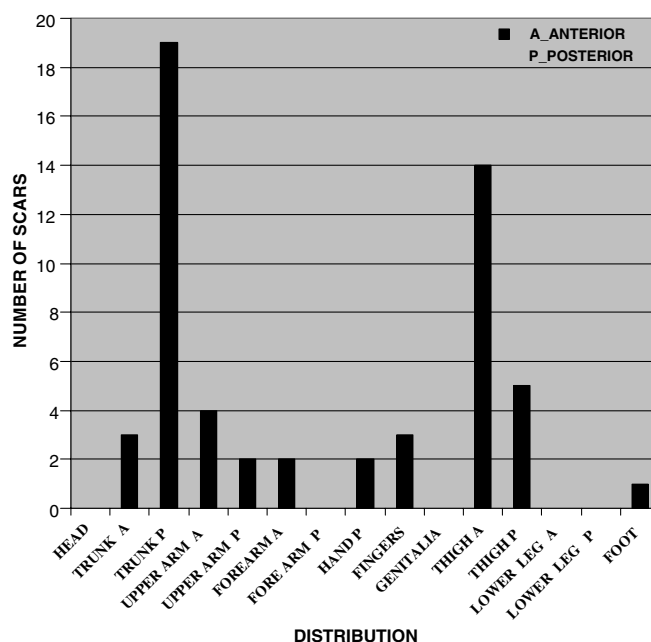


Fig. 9. Distribution of scars of injuries due to heated solid objects.

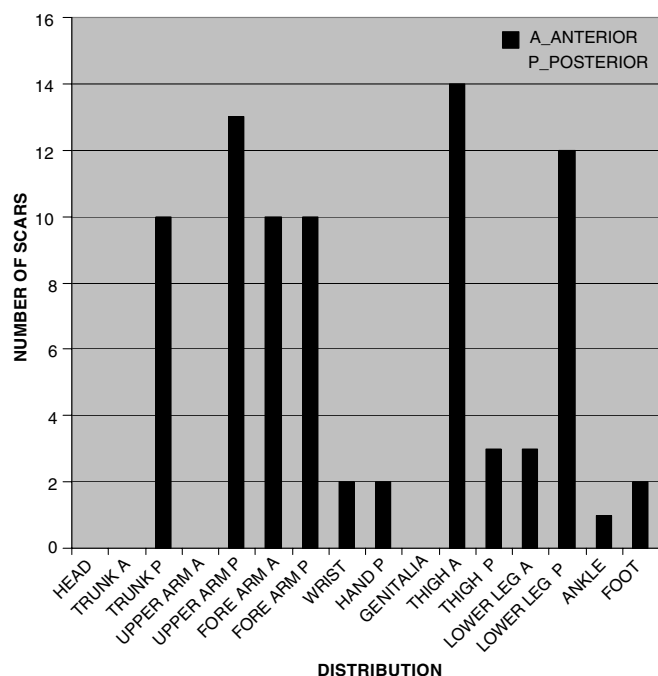


Fig. 10. Distribution of scars of injuries due to razor blades and knives.

3.10. Scars of razor blades and knives

Although 21% of victims claimed that they were tortured with razor blades and knives only 12% had scars. Total number of scars was 82 scars, which was 4.44% of the total. There were 6.83 scars per person.

All the scars were linear.

67% were superficial and 32% were deep.

78% were depigmented and 20% were pigmented.

90% were dull and 10% were shiny.

96% were non-hypertrophy and 2% were hypertrophy.

The size ranged from 5 mm to 90 mm.

All had normal skin margins.

3.10.1. Distribution (Fig. 10)

Back of the upper arms 16%.

Front of the forearm 12%.

Back of the forearm 12%.

Front of the thigh 17%.

Back of the lower leg 15%.

Front of the lower leg 4%.

Only 12% were seen on the trunk.

4. Discussion

This study looked at the scars caused by a few selected torture methods. The objective was to produce features of a typical scar of each of these methods and determine their characteristic distribution. Scars caused by natural diseases and non-torture related lesions such as scars following accidental falls were ignored.⁵ In this series all the victims who claimed to have been tortured had scars at least from one of the methods of torture. However, in

Moisander and Edston's study, only the Ugandans and the Bangladeshis had scars on all the victims whereas 25% of the Turks and Peruvians, 14% of the Iranians and 12% of the Syrians did not have scars although they claimed to have been tortured.¹⁰

Although it is a well-recognized fact that torture does not always leave telltale marks all the victims of this series had scars of some sort. Perhaps some of them were showing scars caused by other means as caused by torture intentionally or unintentionally. There may have been selection-bias as these victims were not chosen randomly. The victims, who were able to overcome a variety of obstacles to come through the legal process for medical evaluation were obviously a selected lot. They were very much different from the asylum seekers, whom the most of studies have been done on. They also knew that the medical evidence was crucial for their case and a favourable report would depend on the availability of physical evidence. Perhaps, the victims with no demonstrable physical lesions might not have opted for a medical examination.

Histo-pathological features of a scar do not vary with its origin. Scar is a fibrous tissue replacement of normal tissue destroyed by injury or disease.¹¹ Only a wound with full thickness skin loss can turn into scar tissue when healed by secondary intention.^{4,12} A partial thickness skin loss can also be healed with a scar if infected.³ Usually abrasions and contusions by their definitions cannot leave permanent scars. However, abrasions and contusions caused by blunt weapons seemed to have left permanent marks on the victims in this study. However, they should not be called 'scars' in the strict sense of the word. They were merely hypo or hyper pigmented areas of the skin, a phenomenon observed by many forensic medical experts in the past.^{3,4} The pathological process behind this phenomenon has been explained by Peel et al. They say that the hyper-pigmentation seen after torture in dark skinned people is a result of the inflammation and it takes the shape of the contours of the original inflammatory response. This is important for the doctors who examine these victims years after the torture to assess the consistency of their stories with the physical findings.¹³

Some of these 'scars' of hypo or hyper-pigmentations were arranged in a 'tram line' pattern. Slightly more than 1% of scars of NPBW and 5% of PBW showed this appearance. It has already been observed by others that 'tram line' contusions healed with 'tram line' scars.^{3,5}

Some of the scars were hypertrophied but none had gone up to the formation of 'Keloids'. Hypertrophy or keloid formation is an excessive growth of scar tissue. Although it is known that people with 'certain skin types' are more prone to develop keloid, the exact reason for this phenomenon is not known.¹⁴ Out of the torture methods discussed here burns with heated solid objects had caused the maximum number of hypertrophied scars. The second and third places had gone to the cigarette burns and burns due to molten plastic respectively. The reason for this is not very clear. In other studies also, hypertrophic scars were

usually seen with burns and other forms of irritating injuries.³ However, Rasmussen et al. found that blunt trauma also could cause hypertrophic scars with hyper-pigmented margins.⁵

Some of scars were puckered or wrinkled. Contraction of a scar is an important part of normal healing process.¹⁴ Contractures producing deformities is an exaggeration of this process. Puckering was seen here only with scars of burns. Quarter of scars of each variety of burns namely cigarette burns, molten plastic and heated solid objects showed this phenomenon. Although the exact reason is not known infection and time taken for healing are two factors, which cause shrinkage of scars.³

The scars were also classified according to the depth. When a scar was felt separately in relation to the surrounding skin during palpation it was considered as deep. Deep scars are of injuries of full thickness skin loss. 95% of scars of molten plastic were deep whereas 98% of scars of PBW were superficial. With molten plastic the perpetrator cannot control the extent of burning once the burning clumps of plastic were dropped on the skin. PBW like wires, canes do not usually cause full thickness skin loss hence the scars caused by them are superficial. In the case of cigarette burns 1/3 were superficial because the perpetrator has the ability to control the extent of burning.

Whether a scar is shiny or dull does not depend on the depth of the scar. This is shown by the fact that 95% of scars of molten plastic were dull though 95% of them were deep. On the other hand, when 95% of scars of PBW were dull 98% were superficial. However, most number of shiny scars was seen with cigarette burns, which amounts to a quarter.

Size and shape of a scar was directly related to the size and shape of the offending agent. All blunt weapons had caused elongated wounds. Cigarette burns were either oval or round. Heated solid objects had produced scars of peculiar shapes.¹⁵ Scars of molten plastic corresponded to the shape of the clumps of molten material, which are either oval or round. All the scars caused by sharp cutting objects were linear. However, size of the scars of sharp cutting objects can vary from the size of the instrument. A long knife can cause a very small superficial cut and vice versa. Although one expects to see either elongated or linear scars with ligatures, as much as 1/3 of scars of ligature were either oval, round or irregular. The reason may have been that in these cases only a part of the ligature had caused a full thickness skin loss.

Distribution pattern of scars of different methods of torture were very characteristic although majority of the scars were seen on the back. Cigarette burns are mainly distributed on the front of the trunk, anterior thigh, front and back of the forearm and front of the lower legs. Forrest has also found the scars of cigarette burns on almost the same places and the back of the hands in addition.³ He also has described pattern of scars of cigarette burns around knuckles, forearms and front of thighs, which he says a definite sign of torture.¹⁵ Scars of blunt weapons were mainly

seen over the back of the trunk, upper arm and thighs and front of the thighs. Majority of scars of molten plastic were seen on the dorsum of foot, front of forearm, front of the thigh and on the wrists. However, contrary to our expectations, distribution of scars of heated solid objects did not show any pattern. As the method implies most of the ligature marks were seen around the ankles and wrists. Distribution of the scars of sharp cutting objects were very characteristic as almost 90% of them were seen over the limbs both anterior and posterior aspects.

The typical scar of each of these methods of torture as found out in this study was as follows:

4.1. Scars of cigarette burns

A typical scar of a cigarette burns was a round or oval, deep, pigmented, dull, non-hypertrophied and non-puckered scar with normal skin margins. Size was ranging from 3 mm to 15 mm. It was distributed mainly on the front of the body and on the back of the forearms.

However, almost 1/3 of them were superficial and hypopigmented and a quarter of them were shiny and puckered. More than 1/10 of them were hypertrophied. They were described in other studies as having tissue paper centre, sometimes with umbilicated appearance.¹⁵ Rasmussen et al. described a cigarette burn scar as 5–10 mm large, circular and macular scars with de-pigmented centre and a hyper-pigmented, relatively indistinct periphery.⁵

4.2. Scars of non-pliable blunt weapons

A typical scar was an elongated, superficial, pigmented, dull, non-hypertrophied and non-puckered scar with normal skin margins. It was distributed mainly over the back of the trunk, back of the thighs and upper limbs. Length ranging from 30 mm to 119 mm and width from 5 mm to 15 mm.

However, almost 1/5 of the scars were linear. Just over 1% was 'tram line' scars. Almost quarter of the elongated scars was hypo-pigmented.

4.3. Scars of pliable blunt weapons

A typical scar was an elongated, pigmented, superficial, dull, non-hypertrophied and non-puckered scar with normal margins. It was distributed mainly on the back of the trunk and back and front of the thighs. Length was between 30 mm and 69 mm and width between 5 mm and 15 mm.

However, more than 1/10 of scars were linear. Slightly more than 1/20 was 'tram line' scars.

There are a few differences in the scars caused by PBW and NPBW, which justified the separation of the blunt weapons into two categories. NPBW tends to leave scars more than PBW. More 'tram line' scars were seen with PBW. More deep scars were seen with NPBW. PBW produced more elongated and 'tram line' scars whereas NPBW produced more scars of other shapes.

Rasmussen et al. say blunt trauma leave no or uncharacteristic scars. Flogging, beating with canes or truncheon may, however, leave characteristic scars. They are asymmetric, linear, straight or curved or 'tram line' scars. They also say they can be hypertrophic scars with a narrow regular hyper-pigmented area in the periphery.⁵

4.4. Scars of ligature

A typical scar was an elongated or linear, superficial, pigmented, dull, non-hypertrophied scar with normal skin margins. As obviously expected, distribution was mainly around the ankles and wrists. However, almost a quarter of scars were deep. One-third of the scars were not elongated or linear.

4.5. Scars of molten plastic

Torture with molten plastic always resulted in scars. A typical scar was a round or oval, deep, dull, non-hypertrophied and non-puckered scar with normal skin margin. However, more than quarter was hypertrophied and another quarter was puckered. The distribution was mainly over the front of the thighs, wrists, dorsum of feet and front of lower leg.

4.6. Scars of heated solid objects

A slight percentage of victims, who had been tortured with heated solid objects, did not have scars. A typical scar was a deep, pigmented, dull, hypertrophied, non-puckered, scar with normal skin margins with a definite shape. However, quarter of the scars was puckered, 20% scars were non-hypertrophied and almost another quarter was depigmented. Typical distribution was surprisingly not very characteristic.

4.7. Scars of sharp cutting objects

A typical scar was a linear, superficial, depigmented, dull, non-hypertrophied, non-puckered scar with normal skin margins. Distribution was mainly over the limbs. However, almost 1/3 of scars were deep, 1/5 of scars were pigmented, and almost 1/10 of scars were shiny and size ranging from 5 mm to 90 mm.

Rasmussen et al. say sharp force trauma usually leaves recognizable scars but self infliction, ritual scars and scars of traditional healing methods has to be excluded when present on the wrist. These scars can be hypertrophied if pepper is applied.⁵

Not only with scars of sharp cutting instruments but also with the other forms of torture the same differential

diagnoses are applied. The Istanbul Protocol also advises the examining doctor to consider these differential diagnoses and express his opinion as to the origin of the lesions.⁷

This study is an attempt to find out typical features of scars of few important torture methods. By doing so, I hoped to sharpen our understanding of the different appearances of scars of torture so that we would be able to give conclusive reports to the courts and other needy authorities in the future.

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